

# **CHARACTERIZATION STUDY TO DETERMINE THE PLASTIC CARRYOUT BAG CO-MINGLED RECYCLING RATES**

**PREPARED BY:**

**DR. DEBORAH HUNT**

**CALIFORNIA STATE UNIVERSITY , SACRAMENTO**

**Presented by**

**Kathy Marsh and Neal Johnson**

# Study Objectives

- Provide a Statewide estimated weight of regulated recycled plastic carryout bags.
- Calculate a Statewide regulated plastic carryout bag recycling rate.
- Provide a methodology for Stores/Operators to use in their annual reports.

# CSUS Contract

- Develop the methodology for plastic carryout bags characterization studies.
- Calculate Statewide & regional co-mingled film plastic recycling rates.
- Determine percent of regulated plastic carryout bags collected for recycling as “bag-only” material.
- Prepare a written report.

# Study Methodology

- Statistically representative; both Statewide and regionally.
- 32 Operators targeted for sampling.
- 18 Operators participated in the study.

# Study Methodology

- Minimum of 300 field samples
- 270 “Co-mingled” samples
  - Total weight sampled: 55,200 pounds
- 115 “Bag-only” samples
  - Total weight sampled: 22,200 pounds

# Study Methodology

## Plastic Sampling Categories:

- Regulated Bags
- Non-Regulated Bags
- Ineligible Bags
- Film & Shrink Wrap
- Other Plastic Material & Contaminants

# Study Methodology

Sampling Categories	Bags-Only	Co-Mingled
Regulated Bags	Yes	Yes
Non-Regulated Bags	Yes	Yes
Ineligible Bags	Combined and reported as “Other Plastic Material”	Yes
Film & Shrink Wrap		Yes
Other Plastic Material & Contaminants		Yes

# Limitations

- 14 Non-participating operators representing approximately 1,500 stores.
- Regional distribution of samples uneven.
- Non-regulated and ineligible bags were difficult to distinguish.
- Contamination levels were consistent across samples and locations.
- Wintertime sampling added moisture.



# Statewide Recycling Rates

Sampling Category	Bags Only	Co-Mingled
Regulated Bags	11%	5.9%
Non-Regulated Bags	4.1%	1.1%
Ineligible Bags	84.9%	5.9%
Film and Shrink Wrap		63.2%
Other Plastic Material		23.9%

# Regional Recycling Rates

- Bags Only: no regional differences
- Co-Mingled: some differences observed--  
Were not statistically significant. Further study needed.

# Report Location

- The final report will be made available on CalRecycle's website at:

**[Calrecycle.ca.gov/Plastics/AtStore/Resources.htm](http://Calrecycle.ca.gov/Plastics/AtStore/Resources.htm)**

# Questions?

# **Summary of the At-Store Plastic Bag Certification Cycles for 2007, 2008, and 2009**

March 15, 2011

**Presented by  
Kathy Marsh and Neal Johnson**

# At-Store Recycling Program Law

- Requires store operators that provide regulated plastic carryout bags to customers at the point of sale to establish a plastic carryout bag recycling program.
- Sunsets January 1, 2013

# Definition of a Store

- “Store” means a retail establishment that provides plastic carryout bags to its customers as a result of the sale of a product and that meets either of the following requirements:
  - A retail establishment that has over 10,000 square feet of retail space that generates sales tax and has a licensed pharmacy.
  - A supermarket that has a full-line, self-service, retail store with gross annual sales of \$2 million or more and which sells a line of dry groceries, canned goods, non-food items, or perishable goods.

# Store Annual Reports

The store annual report to CalRecycle includes:

- The amount of plastic carryout bags purchased;
  - The amount of “Bag-Only” (regulated plastic carryout bags) or the amount of “co-mingled” plastic (regulated plastic carryout bags, plastic film, and other plastic material) collected for recycling.
- The 2010 report is delayed 6 months and is due to CalRecycle by October 1<sup>st</sup>.



# CSUS Waste Characterization Study

- Provide a Statewide estimated weight of regulated recycled plastic carryout bags.
- Provide recycling adjustment factors for use in calculating statewide recycling rates.

# Annual Recycling Rates

The rates for the 2007, 2008 and 2009 certification years, have been determined using:

- The store annual reports received and
- The published adjustment factors in the CSUS Waste Characterization Study.
  - 11% of “bag-only” material was regulated plastic carryout bags.
  - 5.9% of “co-mingled” material was regulated plastic carryout bags.

# 2007 RECYCLING SUMMARY

- 4,061 Stores Reported
- 24,564 Tons Plastic Carryout Bags Purchased
- CSUS Adjustment Factors: 11% for Bag-only;  
5.9% for Co-Mingled Plastic

	Bag-only Recycled (Tons)	Co-Mingled Recycled (Tons)
Reported Total Plastic Collected	1,328	5,494
Adjusted Plastic Carryout Bags (by method)	145	326
<b>Total Plastic Carryout Bags Collected</b>	<b>471</b>	
<b>Carryout Bag Recycling Rate</b>	<b>471/ 24,564 = 2 Percent</b>	

# 2008 RECYCLING SUMMARY

- 4,696 Stores Reported
- 53,691 Tons Plastic Carryout Bags Purchased
- CSUS Adjustment Factors: 11% for Bag-only;  
5.9% for Co-Mingled Plastic

	Bag-only Recycled (Tons)	Co-Mingled Recycled (Tons)
Reported Total Plastic Collected	2,455	13,967
Adjusted Plastic Carryout Bags (by method)	267	824
<b>Total Plastic Carryout Bags Collected</b>	<b>1,094</b>	
<b>Carryout Bag Recycling Rate</b>	<b>1,094/ 53,691 = 2 Percent</b>	

# 2009 RECYCLING SUMMARY

- 5,543 Stores Reported
- 52,602 Tons Plastic Carryout Bags Purchased
- CSUS Adjustment Factors: 11% for Bag-only;  
5.9% for Co-Mingled Plastic

	Bag-only Recycled (Tons)	Co-Mingled Recycled (Tons)
<b>Reported Total Plastic Collected</b>	7,581	11,410
<b>Adjusted Plastic Carryout Bags (by method)</b>	834	673
<b>Total Plastic Carryout Bags Collected</b>	1,507	
<b>Carryout Bag Recycling Rate</b>	1,507/ 52,602 = 3 Percent	

## Report Location

- The 2007, 2008 and 2009 reports will be made available on CalRecycle's website at:

**[Calrecycle.ca.gov/Plastics/AtStore/default.htm](http://Calrecycle.ca.gov/Plastics/AtStore/default.htm)**

# Questions?